

CLAIMS:

What is claimed is:

1. An improved method for implementing a Wireless Local Area Network (WLAN) gateway system.
2. The method of claim 1, which provides for a real-time authentication and billing gateway system for WLAN traffic
3. The method of claim 2, which is implemented as part of a computer program product, comprising:
 - a) a computer readable memory medium; and
 - b) a computer program.
4. The method of claim 3, where wireless subscribers seeking to access WLAN services must first authenticate (through any number of mechanisms either disclosed herewith or by reference to the state of the art) with the computer program product.
5. The method of claim 4, whereby the computer program product connects, by means of logical commands and means for the transmission of data, to the Short Message Service Center (SMSC) for non-repudiation purposes of wireless subscribers seeking to access WLAN services.

6. The method of claim 5, whereby the subscriber is authenticated by the computer program product and a short message (SM) is delivered to said subscriber's MSISDN through the relevant SMSC.

7. The method of claim 6, whereby said wireless subscriber sends an appropriate response message to the computer program product of the gateway which thereby permits access to the WLAN service(s) in question.

6. The method of claim 6, whereby in the absence of an appropriate response message to the computer program product of the gateway, no access to WLAN service(s) is permitted.

9. The method of claim 4, whereby Unstructured Supplementary Service Data (USSD) access technologies are also employed as a non-repudiation mechanism for wireless subscribers seeking to access WLAN services vis-à-vis the computer program product.

10. The method of claim 4, where said authenticated wireless subscriber is billed in relation to certain accounting variables, as, whether on contract, or accessing such services by means of a voucher, or credit card or prepaid wireless account.

11. The method of claim 10, where the charging for such billing scenarios is accomplished by an improved and integrated series of rules which are invoked and designed to sort, classify and/or rate WLAN traffic.
12. The method of claim 11, wherein such rules remain highly configurable and flexible given the dependencies and requirements in determining the WLAN tariff for a given session/subscriber.
13. The method of claim 10, where for contract subscribers the computer program product tracks, rates and converts said usage details into any number of Charging Detail Records (CDR).
14. The method of claim 13, where such CDRs are transmitted by the computer program product to the requisite downstream billing technologies.
15. The method of claim 10, where wireless users may be seeking to access WLAN services through means of a voucher.
16. The method of claim 15, where the voucher is validated by an external voucher management system, whereupon successful validation the computer program product creates a temporary account for said wireless user within its logical memory store dependant upon the voucher amount and the given rate plan.

17. The method of claim 16, where the temporary account created by the computer program product stores the remaining balance and periodically decrements it as such.

18. The method of claim 10, where a credit card is used as the payment instrument for accessing WLAN services.

19. The method of claim 18, where the computer program product validates said credit card user and validates the amount of time allotted as per the amount authorized by the credit card owner.

20. The method of claim 19, whereof for the protection of privacy and security, the computer program product particularly lacks the requisite logic or instructions required to store any sensitive details whatsoever relating to said credit card parameters.

21. The method of claim 10, which relates to prepaid wireless subscribers.

22. The method of claim 21, where the computer program product is imbued with the requisite logic required to perform a balance check of said wireless subscriber's prepaid account by interfacing with the relevant Service Control Point (SCP).

23. The method of claim 22, whereupon satisfaction of an adequate account balance, the computer program continues billing said wireless subscriber according to the rating rules therewith until said account is depleted or said subscriber disconnects.

24. The method of claim 23, where the computer program has been articulated with the logic to kill the WLAN session where the relevant wireless subscriber's account is depleted or otherwise unable to financially satisfy the pecuniary obligations tied to said WLAN session.